CALIFORNIA COASTAL COMMISSION South Coast District Office 301 E Ocean Blvd., Suite 300 Long Beach, CA 90802-4302 (562) 590-5071



W14b&15a

A-5-SNP-19-0136 & 5-20-0153 (Poola)

DECEMBER 15, 2021

EXHIBITS

Table of Contents:

- Exhibit 1 Project Location
- Exhibit 2 Project Plans
- Exhibit 3 Appeal
- Exhibit 4 Unpermitted Development near Bluff Edge
- Exhibit 5 Aerial Photo from California Coastal Records Project
- Exhibit 6 Applicants' Community Character Analysis
- Exhibit 7 Staff's Community Survey
- Exhibit 8 San Pedro LUP Appendix F
- Exhibit 9 Geologic Setback Line
- Exhibit 10 Geotechnical Review Memorandum by Commission Staff Geologist



1305 W Paseo del Mar (Project Site)

Paseo del Mar

W Paseo del Mar

1307 W Paseo del Mar (Neighboring Project)

aseo del Mar

W Paseo del Mar



Page 2 of 2



California Coastal Commission

ALC: NOT ALC













PREPARED FOR: DR. RAMEN & VANI POOLA 13614 SUNSET DRIVE APPLE VALLEY, CA 92308 (760) 617-4650

STATISTICS: APN 7470-031-006 0.44 AC (NET)

SITE ADDRESS: W. PASEO DEL MAR SAN PEDRO, CA 90731

LEGAL DESCRIPTION: LOT 26, TRACT NO. 7117, M.B. 78-98

BENCHMARK: CITY OF LOS ANGELES BENCH MARK NO. 24-10353

USC&GS BRASS CAP STAMPED "T-787" IN CONC. MONUMENT LOCATED 1.5' SOUTH OF SOUTH CURB ON PASEO DEL MAR, 19' WEST OF CENTERLINE PRODUCTION OF PATTON AVENUE. 2' EAST OF EAST END OF CATCH BASIN.

ELEVATION = 123.943

NOTES:

BUILDING AND SAFETY FORM B-164 "GENERAL GRADING REQUIREMENTS" IS A PART OF THESE PLANS.

STANDARD 12-INCH HIGH BERM IS REQUIRED AT TOP OF ALL GRADED SLOPES.

NO FILL SHALL BE PLACED UNTIL THE SOILS ENGINEER OF RECORD AND THE CITY GRADING INSPECTOR HAS INSPECTED AND APPROVED THE BOTTOM EXCAVATION.

BUILDING AND SAFETY LETTER DATED ______ AND REFERENCED REPORTS ARE A PART OF THESE PLANS.

CITY PLANNING LETTER DATED_____IS A PART OF THESE PLANS.

A REGISTERED DEPUTY GRADING INSPECTOR IS REQUIRED FOR

No. 36052

Exp. 6/30/201

ZONING, REGIONAL PLANNING, AND OTHER AGENCY INFORMATION:

PROPERTY ZONING: R1-1XL INTENDED LAND USE: RESIDENTIAL

FLOOD PLAIN:

FEMA ZONE X, MAP NO. 06037C2033F DATED 9/26/2008

EARTHWORK QUANTITIES:

CUT: 590 CU. YDS.						
FILL: 5 CU. YDS.						
IMPORT: 0						

EXPORT: 585 CU. YDS.

LEGEND:

XX)	EXISTING ELEVATION
XX	PROPOSED ELEVATION
-1	FLOWLINE

- FLOWLINE HIGH POINT GRADE BREAK TOP OF GRATE INVERT ELEVATION FINISHED SURFACE
- FL HP GB TG INV.
- FS
- PAD ELEVATION FINISHED FLOOR EXISTING CONTOURS PE FF
- \rightarrow DRAINAGE ARROW

HIDIM

36-PALM TREE

HIGH DESERT MAPPING

Land Surveying - Civil Design

16704 Neenach Road Apple Valley, CA 92307 (760) 508-8555

dbw.hdm@gmail.com





California Coastal Commission

SCALE: 1"=15'

RAYMOND J. ALLARD R.C.E. 36052 (expires 6/30/2014)

NORTH









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California Coastal Commission

												PLANS PREPARED BY:																																		
DATE R	REVISION	DESCRIPTION	APPROVED '	DATE	SCALE:	DESIGNED:	DRAWN:	CHECKED:	LEGAL:	BENCHMARK	· · · · · · · · · · · · · · · · · · ·	PETER and ASSOCIATES ENGINEERS																																		
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STATE OF CALIFORNIA - THE RESOURCES AGENCY

RECEIVED

South Coast Region South Coast Region GAVIN NEWSOM, Governor

CALIFORNIA COASTAL COMMISSION

SOUTH COAST DISTRICT OFFICE 301 E. OCEAN BLVD. SUITE 300 LONG BEACH, CA 90802-4416 VOICE (562) 590-5071 FAX (562) 590-5084

JUL -9 2019 2019

CALIFORNIA CALIFORNIA COASTAL COMMISSION

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT

Please Review Attached Appeal Information Sheet Prior To Completing This Form.

SECTION I. Appellant(s)

Name: Noel Gould, Mark Severino, Penelope McKenzie, Neil Boissonnault, Full list attached. Mailing Address: 728 Paseo Del Mar

City: San Pedro Zip Code: 90731

Phone: 310-625-1157

SECTION II. Decision Being Appealed

1. Name of local/port government:

Los Angeles

Brief description of development being appealed: 2.

1305 W. Paseo del Mar: construction of a new 2-story, 26' high, 3,695 sq ft single family residence with a 760 sq ft detached garage roof deck, balconies and mechanical equipment area; Related case: 1307 W. Paseo del Mar: demolition of a 1,302 sq ft single-family residence and construction of a new 2-story, 26' high, 3,548 sq ft single-family residence with a 656 sq ft detached garage and 2,166 sq ft of roof decking, balconies, and mechanical equipment area.

3. Development's location (street address, assessor's parcel no., cross street, etc.):

1305 W. Paseo del Mar & 1307 W. Paseo del Mar, APN: 7470031006 & 7470031007, Patton Ave

- 4. Description of decision being appealed (check one.):
- \Box Approval; no special conditions
- \boxtimes Approval with special conditions:
- Denial
 - Note: For jurisdictions with a total LCP, denial decisions by a local government cannot be appealed unless the development is a major energy or public works project. Denial decisions by port governments are not appealable.

TO B	E COMPLETED BY COMMISSION:	
APPEAL NO:	A-5-GND-19-013	36
DATE FILED:	July 09,2019	Exhibit 3
DISTRICT:	South Coast	Page 1 of 83



APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 2)

- 5. Decision being appealed was made by (check one):
 - D Planning Director/Zoning Administrator
- City Council/Board of Supervisors
- Description Planning Commission
- □ Other
- 6. Date of local government's decision: March 19, 2019 (mailing date May 22, 2019)
- 7. Local government's file number (if any): ZA-2013-3632-CDP-MEL-A1

SECTION III. Identification of Other Interested Persons

Give the names and addresses of the following parties. (Use additional paper as necessary.)

- Name and mailing address of permit applicant: Nirmala Murthy, K&N Revocable Trust, 19885 Sunset Lane, Apple Valley, CA 92308 and Thomas Steeno, Steeno Design Studio Inc., 11774 Hesperia Road #B1760, Hesperia, CA 92345
- b. Names and mailing addresses as available of those who testified (either verbally or in writing) at the city/county/port hearing(s). Include other parties which you know to be interested and should receive notice of this appeal.
- (1) Mark Severino and Penelope McKenzie1311 W. Paseo del Mar San Pedro, CA 90731 Noel Gould 728 W. Paseo del Mar San Pedro, CA 90731
- (2) Elaine Clark 1351 W. Paseo del Mar San Pedro, CA 90731 Jennifer McMullen, Kathleen Martin
- (3) Amanda Seward Law Offices of Amanda Seward 3530 Moore St. Los Angeles, CA 90066
- (4)



Nomes a Addresses of Appellants

Mark Severino 1311 W. Paseo del Mar San Pedro, CA 90731 Penelope McKenzie 1311 W. Paseo del Mar San Pedro, CA 90731 Lorna Wallace 1321 W. Paseo del Mar San Pedro, CA 90731 George Wallace 1321 W. Paseo del Mar San Pedro, CA 90731 Wayne Widner 1218 W. Paseo del Mar San Pedro, CA 90731 Monical Hall 1210 W. Paseo del Mar San Pedro, CA 90731 Jennifer Grasso 1210 W. Paseo del Mar San Pedro, CA 90731 Elaine Clark 1351 W. Paseo del Mar San Pedro, CA 90731 Neil Boissonnault 1461 W. Paseo del Mar San Pedro, CA 90731



SECTION IV. Reasons Supporting This Appeal

PLEASE NOTE:

- Appeals of local government coastal permit decisions are limited by a variety of factors and requirements of the Coastal Act. Please review the appeal information sheet for assistance in completing this section.
- State briefly your reasons for this appeal. Include a summary description of Local Coastal Program, Land Use Plan, or Port Master Plan policies and requirements in which you believe the project is inconsistent and the reasons the decision warrants a new hearing. (Use additional paper as necessary.)
- This need not be a complete or exhaustive statement of your reasons of appeal; however, there must be sufficient discussion for staff to determine that the appeal is allowed by law. The appellant, subsequent to filing the appeal, may submit additional information to the staff and/or Commission to support the appeal request.

Justification for appeal of the Harbor Area Planning Commission (HAPC) decision of March 19th, 2019 for CASE NO. ZA-2013-3632-CDP-MEL-1A; Coastal Commission CDP application number 5-19-0325, 1305 W. Paseo del Mar, San Pedro, CA 90731.

Throughout the City hearing and appeal processes for this and its companion project at 1307 W. Paseo del Mar, CDP application No. 5-19-0324, there have been numerous inconsistencies regarding square footage of the houses, garages, roof decks, grading amounts, and overall project descriptions. For example, the HAPC decision letter specifies throughout that the project at 1305 W. Paseo del Mar involves the demolition of an existing single family residence when there is none. The HAPC approved a 921 square foot garage, yet the Coastal application specifies a 760 square foot garage, and yet when you multiply the garage dimensions on the drawings which state 760 sq ft, it's actually 870 square feet.

While this appeal pertains to 1305 W. Paseo del Mar, it's important that both this and the future appeal of 1307 W. Paseo del Mar be considered together by the Commission because they are owned by the same family, have the same architect, and are adjacent to each other. The projects shared a common CEQA MND. Both projects have been heard together at all the City hearings, and while each project individually is grossly out of conformance with the Community Character, Mass, and Scale, both projects together, with the proposed solid six foot + high common wall across both properties, present as a massive compound.

The projects also fail to satisfy the Chapter 3 requirements of the California Coastal Act (CCA). The development will prejudice the ability of the City of Los Angeles to prepare a Local Coastal Program that is in conformity with Chapter 3 of the California Coastal Act of 1976.

The proposed project's consistency with the Community Character of the area should be analyzed with a visual streetscape analysis of the bluff fronting homes nearby the subject site.

EXHIBIT A details the square footage of all the existing homes on the W. Paseo del Mar bluff. There are three columns. The first shows the square footage of the houses. The second shows the square footage of the garages, and the third shows the visible square footage. The average square footage/baseline of all the homes is 1,600. The average of the garages is 315, and the average square footage of the visible structures is 1,279. Exhibit A shows in red highlight the square footage of the original proposal, the slightly reduced size of the HAPC approved version, and in green our recommended compromise which results in just over a 5% increase in the baseline, really the maximum that would still not cause a material increase in the baseline square footage. Capping the projects at 2,300 sq ft for each house or even 2,050 sq ft using the actual appearance of the bluff homes as a baseline with normal sized (400 sq ft) garages is the ONLY way to assure the scale and character of this bluff side neighborhood is protected from adverse cumulative impacts and violation of the Coastal Act and certified Land Use Plan. As proposed, the effect of these two homes on the baseline square footage is too large and would dramatically and materially change the baseline size/square footage of the bluff top area, thus causing a significant adverse cumulative impact in a very short period of time, and further prejudicing the City's ability to prepare a Local Coastal Program that is in conformity with the Chapter 3 policies of the Coastal Act. If these projects are approved as proposed, they will set the new standard by which future developments will be measured.

EXHIBIT B is a set of photos showing the houses and garages on the entire bluff side of W. Pas

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California Coastal Commission EXHIBIT C consists of two short videos showing the bluff top of W. Paseo del Mar from the car's side window and from the windshield view. These photos and views will provide a real time streetscape showing the exact community character and scale of the W. Paseo del Mar blufftop neighborhood.

Download link for W. Paseo del Mar videos: https://spaces.hightail.com/receive/dzszXHXGs6

Section 30250 Location; existing developed area

(a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.

Section 30251 Scenic and visual qualities

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in

visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

Section 30253 Minimization of adverse impacts

New development shall:

(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

(3) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.

(4) Minimize energy consumption and vehicle miles traveled.

(5) Where appropriate, protect special communities and neighborhoods which, because of their unique characteristics, are popular visitor destination points for recreational uses.

1) The development relies on the installation of a massive soldier pile wall in order to achieve the required 1.5 factor of safety, and soldier piles, or caissons, are considered shoreline protective devices, which are prohibited by the Coastal Commission for new development. Because caissons usually become exposed over time just as bluff top structures would, new development cannot rely on them to assure structural stability or to determine a safe bluff setback. Instead, the structure must be set back far enough from the bluff edge to be safe over its projected lifespan, eg. 75 years. Sea level rise in combination with dramatically increased storm activity should be factored in when projecting the rate of erosion.

EXHIBIT D, is an March 13th, 2019 LA Times article about the USGS new climate model which is the first to combine the effects of sea level rise and storms on our coasts.

Given the proposed size of the house and garage, a safe setback without a deepened caisson foundation won't be possible. Moreover when presented with the fact that there exists a 5-7 foot City storm drain easement on the eastern border of 1305 W. Paseo del Mar which would affect the buildable area of the property, HAPC neither considered it nor even mentioned in their determination letter.

EXHIBIT E shows that there is a significant amount of bluff erosion, already caused by the storn been considered by the applicant's geotechnical firms.

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California Coastal Commission EXHIBIT F Shows the 1305 W. Paseo del Mar storm drain from the street.

- 2) There has been no plan provided to show how the project would be sited with a 50 foot setback and the additional storm drain easement, let alone a plan showing the project without the use of a deepened caisson foundation.
- 3) There has been no removal plan provided in the event the home is threatened by bluff erosion or instability during its design life.
- 4) Public views to the ocean and Catalina Island are walled off by this project.



Paseo del Mar is a designated scenic highway in the San Pedro Community plan, and in the CDP application for this project where item 10. Asks: Is the proposed development visible from:

a) State Hwy 1 or other scenic route, the applicants checked NO.

Unfortunately this has happened numerous times since 2013 when the applicant began this process. It's happened with saying there were no trees with a diameter greater than eight inches. It's happened with grossly understated grading estimates. It's happened with multiple variations in square footage of the houses, garages, and roof decks to the point where we don't know exactly what we're dealing with.

The two projects at 1305 and 1307 W. Paseo del Mar have been proposed with a common solid wall joining the properties and creating the look of a massive compound. It's important that public views from the street be preserved, so view corridors should be created on the east and west side yards. Since public views should be permitted, any fencing and gates in side yard setbacks need to have at least 75% of their surface area open to light.

Please review the audio transcript of the hearing of the two HAPC City Hearings, which are available on City Planning's website and are incorporated herein by reference.

Exhibit 3

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APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 4)

SECTION V. <u>Certification</u>

The information and facts stated above are correct to the best of my/our knowledge. Neil G. Boisson no Clade Signature of Appellant(s) or Authorized Agent 7/8/19 Date: If signed by agent, appellant(s) must also sign below. ote: Section VI. Agent Authorization I/We hereby authorize to act as my/our representative and to bind me/us in all matters concerning this appeal. Signature of Appellant(s) Date: llar



Paseo del Mar Bluffs Square Footage Analysis

EXHIBIT A

	Square Fo			Square Footage	
Address on Paseo del Mar Bluff	<u>House</u>	Garage		Street View- Structure Visible	
1481	3,000	520		3,000	
1479	865	0		0	
1475		0		520	
1471	3,410	520		3,410	
1467	1,776	400		1,776	
1461	1,406	400		1,406	
1459	1,748	0		0	
1457	1,012	400		1,748	
1451	816	0		0	
1441	2,730	400		2,730	
1431	1,185	400		1,185	
1427	1,321	400		1,521	
1421	1,555	400		1,555	
1417	1,040	400		1,840	
1411	1,575	400		1,375	
1401	1,129	400		1,129	
1375	1 399			0.02	
1370	2 188	360		360	
1365	3 3 3 6	400		3 3 3 6	
1355	1 809	00		1 809	
1351	1,432	360		1,432	
1327	2,198	400		2.198	
1321	1.245	400		1.245	
1317	_,	0		0	
1311	2,840	520		520	
1307	1,302	150		1,302	
1305	0	0		0	
1227	954	520		954	
1221-1223	1,298	400		1,298	
1217	1,964	400		400	
1211	2,400	520		2,400	
1207	1,096	400		1,096	
1201	378	400		378	
1177	1,013	0		1,013	
1171	1,150	400		1,150	
1167	1,632	0		1,632	
1161	1,217	132		1,217	
1153	2,630	400		600	
1151	<u>1,689</u>	380		<u>800</u>	
Total square footage on bluff	60,816	11,982		48,613	
average square footage/existing baseline	1,600	315	(Mean = 400)	1,279	
Total square footage on bluff	60,816	11,982		48,613	
Demo existing house	-1,302	-150		-1,302	
Original proposed	4.278	921		4.278	
Original proposed	4,385	661		4,385	
	68,177	13,414		55,974	
# lots	38	38		38	
average square footage/baseline	1,794	353		1,473	
Percentage increase in baseline as originally proposed	12.10%	11.95%		15.14%	
Total square footage on bluff	60,816	11,982		48,613	
Demo existing house	-1,302	-150		-1,302	
Revised proposed	3,695	921		3,695	
Revised proposed	3,548	<u>661</u>		3,548	
	66,757	13,414		54,554	
# lots	38	38		<u>38</u>	
average square footage/baseline	1,757	353		1,436	
Percentage increase in baseline as revised	9.77%	11.95%		12.22%	
Total square footage on bluff	60,816	11,982		48,613	
Demo existing	-1,302	-150		-1,302	
Maximum new	2,300	400		2,050	
Maximum new	2,300	400		2,050	
# lots	04,114	12,632		51,411	
n IUIS	1 607	222		4 252	
average square rootage/baseline	T'091	552		1,555	
reasonable berretrake ittriedse ill passifile	J.4270	3.4270		3./076	

Square Sootages acquired from Pealitor.com Zillow.com + Zimas Double checked week tage isible 3,000 0 520 3,410 1,776 1,406 0 1,748 0 2,730 1,185 1,321 July 7th 2019 1,333 1,640 1,375 1,129

Exhibit 3

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No.














































































































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California Coastal Commission


















































Exhibit 4

Page 1 of 4



Before Removal of Unpermitted Stairways









After Removal of Unpermitted Stairways



Page 3 of 4





After Removal of Unpermitted Stairways



Page 4 of 4



Project Site (Aerial taken in October 1979).



Exhibit 5

Page 1 of 1



ITEM #3 Community Character Analysis W. Paseo del Mar, San Pedro

The proposed homes will be approximately 3,500 sq. ft. each with approximately 700 sq. ft. detached garages. CCC staff has asked for a community character analysis summarizing the mass and scale of the blufftop residences along Paseo del Mar between Weymouth Avenue and Barbara Street.

There are a variety of home sizes along the seaward side of Paseo de Mar ranging from approximately 1,000 sq. ft. to 3,000+ sq. ft. Below are photos of existing homes along the blufftop that are of similar size to the proposed homes.

As shown, the area is characterized by a mix of one- and two-story homes that range in mass and scale. The proposed homes will be consistent with the eclectic character of the surrounding community.



1433 W. Paseo del Mar (sq. ft. unknown) and 1441 Paseo del Mar (2,730 sq. ft.)



1471 W. Paseo del Mar (3,410 sq. ft.)





1481 W. Paseo del Mar (2,656 sq. ft.)



1311 W. Paseo del Mar (3,201 sq. ft.)



While not on a blufftop, the home directly across the street from the subject properties is 4,405 sq. ft. See photo below.



1302 W. Paseo del Mar (4,405 sq. ft.)

Additionally, there are numerous homes in San Pedro, beyond the immediate neighborhood requested to be analyzed, that exceed 3,000 sq. ft. and further illustrate the varied architectural style of the community. See photos below.



2135 W. Paseo del Mar (4,030 sq. ft.)





2273 Warmouth Ave (4,753 sq. ft.)



2259 Warmouth Ave (3865 sq. ft.)



Staff's Community Survey*

Building Area (sq. ft.)	Year Built
1689.00	1941
2630.00	1962
1217.00	1947
1632.00	1970
1135.00	1935
1013.00	1961
378.00	1955
1096.00	1939
2400.00	2010
1964.00	1946
1298.00	1946
954.00	1937
3201.00	1950
1245.00	1949
2198.00	1947
1432.00	1948
1809.00	1970
3336.00	1916
2188.00	1956
1399.00	1949
900.00	1929
1129.00	1951
1375.00	1951
1640.00	1940
1333.00	1940
1321.00	1941
1821.00	1942
2730.00	1975
816.00	1947
1748.00	1956
1012.00	1963
1406.00	1943
1776.00	1960
3410.00	1981
865.00	1964
512.00	1956
2656.00	1926
	Building Area (sq. ft.) 1689.00 2630.00 1217.00 1632.00 1135.00 1013.00 378.00 1096.00 2400.00 1964.00 1298.00 954.00 3201.00 1432.00 1809.00 3336.00 2198.00 900.00 1333.00 1321.00 1821.00 2730.00 816.00 1748.00 1012.00 1406.00 1776.00 3410.00 865.00 512.00 2656.00

Average square footage: 2172.50

*Data acquired from LandVision on 11.10.2021







CALIFORNIA COASTAL COMMISSION 455 MARKET STREET, SUITE 228 SAN FRANCISCO, CA 94105-2219 VOICE (415) 904-5200 FAX (415) 904-5400



December 3, 2021

GEOTECHNICAL REVIEW MEMORANDUM

To: Vince Lee, Coastal Program Analyst

From: Joseph Street, Ph.D., P.G., Staff Geologist

Joseph Street

Re: 1305 & 1307 W. Paseo Del Mar, San Pedro (Poola & Murthy residences)

Introduction

The primary purpose of this memo is to review (i) the stability of the coastal bluff and (ii) the potential for future bluff retreat at the subject sites, and (iii) to evaluate the adequacy of the proposed 50-foot bluff top setback for minimizing geological hazards and assuring the stability and structural integrity of the proposed residences. The memo also evaluates the potential for the proposed soldier pile ("caisson") stabilization system to act as a bluff protection device and be exposed by erosion within a 75 – 100 year project life.

To this end, I have reviewed the following documents directly related to the subject property:

- Peter & Associates, 2016a, "Supplemental Preliminary Geotechnical Investigation / Response to LADBS Correction Letter Dated May 29, 2015 – Proposed Residential Construction (Two Houses) at 1305 & 1307 W. Paseo Del Mar, San Pedro, City of Los Angeles, CA 90731 [Lots 26 and 25, Tract 7117; M.B. 78-98]", signed by L. N. Pham (RGE 686), W. R. Munson (CEG 866), and S. B. Peter (RCE 38623), April 14, 2016.
- Peter & Associates, 2016b, "Response to LADBS Correction Letter, Dated May 18, 2016, Regarding Proposed Residential Construction (Two Houses) at 1305 & 1307 W. Paseo Del Mar, San Pedro, City of Los Angeles, CA 90731 [Lots 26 and 25, Tract 7117; M.B. 78-98]", signed by L. N. Pham, W. R. Munson, and S. B. Peter, August 4, 2016.
- Peter & Associates, 2017a, ""Eighth" Response to LADBS Correction Letter, Dated November 29, 2016, Regarding Proposed Residential Construction (Two Houses) at 1305 & 1307 W. Paseo Del Mar, San Pedro, City of Los Angeles, CA 90731 [Lots 26 and 25, Tract 7117; M.B. 78-98]", signed by L. N. Pham, W. R. Munson, and S. B. Peter, January 31, 2017.
- Peter & Associates, 2017b, "Addendum / Modification to "Eighth" Response to LADBS Correction Letter, Dated November 29, 2016, Regarding Proposed Residential Construction (Two Residences) at 1305 & 1307 W. Paseo Del Mar, San Pedro, City of Los Angeles, CA 90731 [Lots 26 and 25, Tract 7117; M.B. 78-98]", signed by L. N. Pham, W. R. Munson, and S. B. Peter, June 28, 2017.
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I have also reviewed several of City of Los Angeles Geology and Soils Report Correction Letters (dated 5/6/14, 1/26/15, 5/29/15, 9/30/16, 11/29/16) and the Approval Letter dated 6/29/17. I also consulted oblique aerial photographs of the subject sites provided by the California Coastal Records Project (<u>https://www.californiacoastline.org</u>), and historical overhead aerial photographs of the area from the U. C. Santa Barbara archive (<u>https://mil.library.ucsb.edu/ap_indexes/FrameFinder/</u>).

Site Description

The proposed projects involve the construction of two new residences on adjoining bluff top lots at 1305 and 1307 W. Paseo Del Mar, San Pedro. The new residences would be sited 50 feet landward of the edge of the approximately 120-foot high coastal bluff. As described in greater detail in Ref. (1), the bluff at the site is composed of the Altamira Shale unit of the Miocene-aged Monterey Formation, overlain uncomformably by approximately 4 feet of Quaternary non-marine terrace deposits (silty clay topsoil) and, in places, a thin layer of artificial fill possibly related to prior grading of the lots. Based on borings at the sites, the Altamira Shale consists predominately of thin-bedded, seaward-dipping strata of siltstone and clayey siltstone interbedded with sandstones and multiple bentonitic clay seams.

As interpreted in Refs. (1-5, 9-10), the bluff face at both lots consists almost entirely of massive landslide deposits, except for a steep head scarp at the top of the bluff where intact bedrock strata and terrace deposits are exposed. As a result of the landslide, the bluff slope is on average relatively gentle (<30°), but highly variable, and is deeply incised and degraded by erosion. The bluff is fronted by a relatively narrow beach with a large component of rock, cobble, and gravel.


Bluff Stability

The key geologic feature at the site is a large landslide extending more than 300 feet along the bluff face and spanning portions of six lots, including both project sites. Refs. (1 - 5, 9 - 10) interpret the landslide as a block glide/bedding plane failure occurring along one or more unsupported, seaward-dipping bentonite-rich clay beds, possibly facilitated by high angle joint fracture sets or minor fault planes within the bluff. Such clay beds, present throughout the Altamira Shale in this area, are weakened by water absorption and are thought to have contributed to two nearby historical landslides (Point Fermin in 1929, Whites Point in 2011). The age of the landslide is unknown, but it appears to predate the development of the area. Although the exact configuration of the landslide is not known, Refs. (1 - 5) posit that the landslide failure occurred along an inclined bedding plane $(14 - 18^{\circ}$ seaward dip) occurring approximately 60 – 70 feet below the subject lots (measured near the bluff edge) and may have been triggered by some combination of high groundwater pressures, earthquake-induced ground shaking, and marine erosion at the bluff toe. Ref. (1) notes that the bluff face landslide terrain shows evidence of on-going shallow slippage, and that there is an area of active, shallow soil creep near the bluff edge on both subject lots.

The applicants' geotechnical consultant (Peter & Associates) performed multiple slope stability analyses in an effort to characterize the stability of the existing landslide and of the intact bluff underlying the project sites (Refs. 1 - 5, 9 - 10). The slope stability analyses followed two distinct approaches that yielded different estimates of the current factors of safety¹ against new landslides within the intact bluff. Both approaches used the same analysis methods (Ordinary Method of Slices, Simplified Janbu), but differed in how they characterized the material strength of the bluff. In the approach favored by Peter & Associates, the shear strength parameters² of the critical bentonite-rich clay beds were determined based on direct shear testing performed in the laboratory on remolded samples. In the approach required by the City of Los Angeles, clay bed shear strength parameters were back-calculated based on a postulated, pre-landslide bluff profile and a factor of safety of < 1.0; in other words, the backcalculated shear strength values are those that would be necessary for the bluff to have failed under the assumed conditions. The back-calculation approach yielded significantly lower shear strengths for the clay beds than did direct testing of remolded samples. Using these two basic approaches, Peter & Associates calculated the factors of safety for multiple scenarios, including failures occurring along bedding planes at various depths within the bluff, with and without the existing landslide debris in place. Unsurprisingly, the analyses using the lower, back-calculated shear strength values consistently yielded lower factors of safety than the direct testing based analyses.

Based on these analyses, the bluff failure event most likely to occur at the site in the future is a reactivation of the existing landslide on the previous slide plane, for which the calculated static factor of safety was 1.0 - 1.2 (with a pseudostatic or "seismic" factor of safety of <<1) (Refs. 1-3). However, a reactivation of the landslide would not, on its own, directly affect the proposed residences, which would be sited more than 50 feet inland on the unfailed portion bluff.

² The shear strength parameters of rock or soil characterize the material's resistance to failure under loading. The key parameters used in many slope stability analyses are the cohesion (c) and internal angle of friction (ϕ) of the material, which can be estimated through a variety of standardized in-situ or laboratory tests.



¹ The factor of safety is an indicator of slope stability, where a value of 1.5 for static analysis and 1.1 for pseudostatic ("seismic") analysis are the industry standard (often included in building ordinances) for geologic stability of new blufftop development. In theory, failure should occur when the factor of safety drops below 1.0. Therefore, the factor of safety at increasing values above 1.0 lends increasing confidence in the stability of the slope. To establish a safe setback for slope stability, the geotechnical analysis needs to establish the distance from the edge of a coastal bluff at which the factor of safety is equal to 1.5 (static) and >1.0 (seismic).

For the intact, unfailed bluff, the minimum static factor of safety was typically associated with a landslide occurring along a clay bed roughly contiguous with the bottom of the existing landslide. For the analyses based on tested shear strength parameters, minimum factors of safety ranged from 1.5 - 1.9 (static) and 1.0 - 1.25 (seismic), depending on the specific method and shear strengths used (Refs. 1-5, 9-10).³ These results would suggest that the bluff landward of the old landslide is grossly stable and at a very low risk of significant failure over the design life of the proposed project. However, the stability analyses using the lower, back-calculated shear strength parameters yielded lower minimum static factors of safety of 1.2 - 1.3 for failure surfaces occurring up to 25 feet inland of the bluff edge (though still well seaward of the proposed house locations). Ref. (4) included analysis indicating a static factor of safety of 1.32 beneath the house footprint (~65 ft inland of bluff edge), while Ref. (9) included analysis indicating a factor of safety of 1.4 at a point 144 ft inland of the bluff edge.

None of the provided stability analyses using back-calculated shear strengths evaluated the position of the 1.5 factor of safety surface (in the absence of the proposed caissons); however, it can be inferred that the 1.5 factor of safety surface would "daylight" on the bluff top more than 150 feet inland of the bluff edge, beyond the proposed garage and possibly beyond the inland property line. There is little to no space on either property to site new development that would achieve a 1.5 factor of safety (back-calculated shear strengths) without the proposed caissons.

The choice of which shear strength parameters to use in the slope stability analysis (i.e., backcalculated vs. direct tested) is of consequence in this case because it determines whether the proposed building sites possess a static factor of safety of 1.5, the minimum threshold for new development used by the Coastal Commission and in many building codes. Peter & Associates have argued that use of shear strengths derived from direct shear testing, in particular the "residual" (post- sample failure) shear strength values, is adequately conservative, in part because they contend that the thin clay beds on which the landslide is thought to have occurred are discontinuous across the site. The City's geotechnical staff disagreed, finding that the evidence of discontinuous clay beds was insufficient, and required use of the lower, back-calculated shear strength values in the approved slope stability analysis. Because the calculated static factors of safety at the proposed building sites in this analysis are below 1.5, the City has required that the new development be supported by shear pin systems – i.e., a row of large soldier piles ("caissons") embedded deeply (~70 ft) into stable bedrock. The caisson systems would provide additional lateral stability for the bluff beneath the proposed houses, increasing the factor of safety to above 1.5.

Without attempting to arbitrate the points of disagreement between Peter & Associates and City staff, I would simply note that the City's approach to the slope stability analysis is the more precautionary and provides greater assurance of stability for the proposed development. With the City-required caisson systems in place, the proposed residences would be adequately protected against bluff instability under present-day conditions.

Future Bluff Retreat

In addition to minimizing present-day geologic hazards, the Coastal Act requires that new development assure stability and structural integrity without requiring shoreline protective devices. To assure that this standard is met, it is necessary to consider both present-day bluff stability and the potential for future bluff erosion and retreat over the life of the proposed development. Many residences in the project area are more than 75 years old, and some are

³ Except for Ref. (1), Peter & Associates generally reported only static factors of safety (FS); for the seismic coefficient ($K_h = 0.15$) used in the pseudostatic analyses, a static FS > 1.5 will generally correspond to a pseudostatic **FS** = **1**.



over 100 years old, indicating that 75 – 100 years is a reasonable "design life" for evaluating bluff erosion hazards.

Additionally, any evaluation of future coastal bluff erosion must consider sea level rise (SLR), which is expected to continue and accelerate for the foreseeable future. The potential effects of SLR include the narrowing or loss of beaches where they are backed by less-erosive bluffs or artificial barriers to inland migration, and increased rates of coastal bluff erosion where the bluff toe is subjected to more frequent and/or more powerful wave attack (e.g., Vitousek et al. 2017, Limber et al. 2018). The State of California Sea-Level Rise Guidance (OPC 2018) and its associated SLR science update (Griggs et al. 2017) provide a range of California-specific projections of future SLR, under several greenhouse gas emissions scenarios, within a guasiprobabilistic framework. For example, under a high emissions pathway (RPC 8.5), the reports estimate that SLR 2100 in southern Los Angeles County (represented by the LA Harbor tide gauge) could, by 2100, exceed 2.2 feet under a 50% probability scenario (median model result), 4.1 feet under the 5% probability scenario (95th percentile model result), and 6.7 feet under the 0.5% probability scenario (>99th percentile result). Both the State Guidance and the Commission's Sea-Level Rise Policy Guidance (2018 update) recommend that new residential development be resilient to the 0.5% probability ("medium high risk aversion") SLR scenario through intelligent siting, design and/or future adaptation measures.

The bluff retreat evaluations provided by the applicant (Refs. 7, 8) included an analysis of historical bluff edge retreat rates based on aerial photographs dating to 1927. Over the 92-year period evaluated, the bluff edge at 1307 W. Paseo Del Mar retreated 15.5 - 25 feet (0.17 - 0.27 ft/yr), while the bluff edge at 1305 W. Paseo Del Mar retreated 10.5 - 30 feet (0.11 - 0.33 ft/yr). Bluff edge retreat rates appear to have been higher in recent decades (since the 1970s, and especially since 2001), which Ref. (7) attributes to the occurrence of two extreme El Niño events (1983, 1998) during this interval and the effects of uncontrolled runoff on the site. However, as noted in Ref. 6, and as evident in California Coastal Records Project (insert website) photographs dating from 2002 to 2013, there no visible evidence of accelerated bluff edge erosion over the last two decades.

Based on the long-term average historical erosion rates since 1927, Refs. (7, 8) projected between 8 - 24 feet of bluff edge retreat at the sites over the next 75 years. The applicant's study concluded that SLR would have no effect bluff edge retreat at the subject site, based on the following key considerations:

- The nearshore profile and beach fronting the site will adjust to changes in sea level, and will continue to attenuate incoming wave energy;
- Incoming waves will impact the same bluff materials as at present, just at a slightly higher elevation;
- The bluff profile and geomorphology are indicative of an erosion regime dominated by subaerial processes; SLR may exacerbate erosion at the bluff toe, but this will not translate into increased erosion at the top of the bluff.

In my opinion, the most convincing of these arguments is the last, invoking the shape of the bluff and the apparent lack of connection between erosional processes occurring at the bluff toe and the bluff top. As noted previously, the overall gradient of the bluff is not steep, with an average slope of less than 30 degrees. As a result, the bluff edge is 180 – 200 horizontal feet inland of the bluff toe, with most of the intervening material consisting of a thick lobe of landslide deposits. For marine erosion to resume at the base of the intact portion of the bluff, approximately 150 horizontal feet of landslide debris would first need to be eroded away by wave action at the toe of the slope.



In order to better understand the potential for marine erosion at the toe of the bluff, I compared the bluff toe position in the 1927 aerial photograph⁴ with a recent (1/2/2020) aerial image from Google Earth, using the center line and seaward sidewalk of Paseo Del Mar as fixed reference points. Bluff toe (measured as the line of vegetation or an obvious scarp) retreat rates over this 92-year period ranged from 0.09 - 0.15 ft/yr. These historical rates suggest a lower bound of 7 – 15 feet of bluff toe retreat over the next 75 -100 years, without considering the effects of SLR.

As a rapid check on the potential effects of SLR on bluff toe retreat, I consulted the U.S. Geological Survey Coastal Storm Modeling System ("CoSMoS") cliff retreat dataset (Barnard et al. 2018, Limber et al. 2018), which provides projections of future bluff retreat for individual transects in the project area with varying amounts of SLR. For the 19 transects along W. Paseo Del Mar nearest the project site, CoSMoS projects that bluff retreat rates could on average increase by a factor of 1.8 with 1 m (3.3 ft) of SLR, and by a factor of 2.8 with 2 m (6.6 ft) of SLR. If applied to the long-term historical bluff toe retreat rates discussed above, these modeled "acceleration factors" suggest that the bluff toe at the project site could retreat by 12 - 42 feet over the next 75 - 100 years, assuming 3.3 - 6.6 feet of SLR. These projected amounts of bluff toe erosion are substantial but would still represent the removal of only a fraction of the landslide debris that separate the present-day bluff toe from the base of the intact, unfailed bluff. In summary, it is likely that future wave attack at the bluff toe will erode into the landslide debris, possibly resulting in renewed movement within the existing landslide. However, the available evidence indicates that it is very unlikely that SLR will affect erosion rates at the top of the bluff or result in erosion that would threaten the proposed development.

Proposed Caisson Stabilization Systems

As noted above, the City of Los Angeles' approval of the proposed projects requires the use of deep caisson stabilization systems at each project site to achieve a 1.5 factor of safety (static) against slope failure (using the City's required, back-calculated shear strength parameters). This is of practical concern because the Commission has previously found that caisson stabilization systems, in some situations, can act as protective devices that alter natural landforms, inconsistent with Coastal Act Section 30253(b). In coastal bluff settings, caissons can also adversely affect visual resources if they become exposed by erosion.

In my opinion, the proposed soldier piles at the subject sites would not, at least in the near term, act as "protective devices" that significantly alter natural shoreline processes. In their proposed locations the soldier piles would enhance the lateral stability of the bluff, increasing the static factor of safety above 1.5. However, in contrast to other coastal settings in which caisson systems have been used to stabilize bluffs at a high risk of failure (e.g., with calculated factors of safety near 1.0), the bluff at the subject sites is not at a high risk of failure, even when assessed using the more conservative slope stability analysis required by the City (see "Bluff Stability", above). Based on the analyses in Refs. 4 and 5, the static factors of safety of the bluff beneath the proposed building footprints are approximately 1.3 - 1.4. While these factors of safety are lower than the precautionary standard of 1.5 typically applied to new development, in real terms they are indicative of a low risk of bluff failure at the location of the proposed homes. Phrased differently, the proposed caissons would not be actively preventing a failure that is otherwise likely to occur.

⁴ Fairchild Aerial Surveys, Flight C-113, Frame 22, August 1, 1927. Available from UC Santa Barbara library at: <u>https://mil.library.ucsb.edu/ap_indexes/FrameFinder/</u>.



Some amount of bluff erosion and retreat is inevitable over the next 75 to 100 years, but the available evidence (see "Future Bluff Retreat", above) suggests that the bluff edge is unlikely to retreat close to the position of the caissons or to result in their exposure. Similarly, chance of a very large slope failure exposing the caissons appears to be small. However, to guard against coastal resource impacts (e.g., landform alteration, visual impacts, future installation of protective devices) in the future if more significant erosion and bluff retreat does occur, it would be prudent to include special conditions that require (a) the removal of all or portions of the caissons if they are in danger of becoming exposed, and (b) relocation or removal of any portion of the residences threatened with instability. Construction and demolition work on eroding and potentially unstable bluffs can present significant safety and logistical challenges. It is important that any caisson removal work occur *before* the caissons are exposed on the bluff face, when there is still adequate bluff stability and enough space between the house and the bluff edge to allow the work to proceed.

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